Transportation Economics and Pricing Program

MTC should consider creating a capacity to conduct a broader kind of economic analysis. MTC has no economic program and no economic model. To reduce environmental and health costs, to improve social equity, and to increase the productivity of the transportation system, MTC should create a comprehensive transportation economics and pricing reform program which will study transportation economics and develop and implement specific pricing reform policies. Full market pricing includes not only the usual monetary capital and operating costs, but also non-monetized external costs of greenhouse gases, other pollution and waste, health and accidents, and nature services.

MTC should consult with academic economists about more detailed development of this program. MTC should consider funding an economic program to conduct economic analysis, reframe the pricing debate, and propose pricing policies. Such a program would help advance the ideas of the Joint Policy Committee on "new revenue sources to support priority development areas" (March 12, 2008, memo by the Regional Planning Program Director, referred to as "JPC memo" below).

Economic Analysis

Building on ABAG's regional model, MTC should develop a quantitative input output model that is sensitive to transportation prices, facilities, and land use and to greenhouse gases, other pollution and waste, health and accidents, and nature services.

The model should include the whole economy, not just the economy as measured by money transactions. The model should include as outputs monetary estimates for quantifiable external costs for pollution, solid waste, vehicle accidents, global warming, and other non-monetized costs so as to reduce estimates of gross regional product and better measure the real performance of the whole regional economy.

The model should be able to consider pricing reforms and price elasticities in order to estimate reduced external costs and increased goods and services as well as the cost of the pricing reform. Estimates of elasticities would include the availability of alternative modes, technologies, and land uses most likely to be competitive with the dominant system of indirect pricing of car use.

The model should be able to consider elasticities and monetary aspects of policies for full market pricing of transportation, based on a goal of responsible consumer choice responding to the real cost of consumer choice, in contrast to the dominant policy mode of governmental prescription to mandate better behavior in the face of irresponsible prices.

The model should be able to consider elasticities and monetary aspects of policies such as protection of open space, smart growth, decoupling parking from other rents, taxes on parking, market-based parking charges, employee parking cash-out, ecopass, shuttle transit to urban rail in Focused Growth corridors, reduced parking and road requirements, development of centrally located under-utilized land (e.g., excess parking, overly wide streets, one story buildings), a

vehicle license fee, and sustainable energy technologies. Such elasticities include demand elasticity and supply elasticity from economies of scale and synergy among non-car modes, land use, and pricing.

The model should have the ability to look at neighborhoods to estimate market demand for housing based on full cost pricing (capital, operating, external costs) of the house, its energy consumption, appliances, and transportation, along a spectrum of neighborhoods from dispersed, auto-dependent to dense, transit and walking oriented.

The model should consider equity issues, including the equity effects of current pricing, the potential equity impacts of pricing reform, and the design of pricing reforms to improve equity over the current pricing system.

The model should be used
1. to estimate the reduction in Gross Regional Product due to indirect, distorted prices for vehicle and fossil fuel use,
2. to shape pricing reform policies to assure economic and equity gains,
3. to estimate value to beneficiaries of pricing reforms, and
4. to estimate the economic productivity gains from pricing reforms.

Reframing the Pricing Debate

The current policy debate prevents factual analysis of transportation problems and perpetuates the problems it claims to solve. The pricing debate focuses on the cost of a reform to vehicles users and assumes political opposition if not political impossibility. Yet most of the American economy has some commitment to using pricing and markets.

The policy debate does not consider the costs of the current pricing system, nor does it know the benefits of pricing reform, because they have rarely been calculated. We have, for example, good academic estimates of the "high cost of free parking," but no policy estimates for specific businesses, institutions, cities, streets, apartments, or transit agencies. Similarly, we have no estimates of benefits for beneficiaries of full market pricing of transportation.

Pricing reform would be helped by better information which frames the debate in terms of the costs of distorted prices of the current system and the direct and productivity benefits for the full economy of pricing reform. The focus needs to be shifted from the cost to be imposed on those not paying for what they are doing, to the costs they impose on others and how others can benefit from reform.

Pricing Policy Development

Several topics could be considered for specific pricing studies and policies:

1. **Study cash-out for Smart Growth**
   Policy makers know that cash-out of employer paid parking for employees is economically

sound and would benefit transportation performance. However, employers now have no incentive to cash-out and land is wasted in vacant parking spaces. Employers who cash out parking and demonstrate to MTC that parking spaces are not needed should have a basic entitlement to develop land no longer needed for parking to the same intensity of use as other development on their property. Cities would have regulatory powers over details but not the ability to reduce intensity of use or engage in undue delay. (JPC memo item 1.5)

2. **Study unbundling of parking rent from space rent**

City qualification for MTC-controlled funds should be conditioned on removal from zoning codes of requirements that parking be provided as part of rent. Owners of rental property should be educated and encouraged to unbundle parking rents and charge whatever they wish for parking. They should get technical assistance in advanced, easy-to-use charging technologies. Those who can demonstrate to MTC that parking spaces are not needed should have entitlement to develop land no longer needed for parking to the same general purpose and intensity of use as other development on the property. MTC should condition funding to cities on cities requiring that developers unbundle parking on new development.

3. Study ecopass

City qualification for MTC-controlled funds should be conditioned on requiring that all new residential construction provide ecopass. Payment can be included in the rent, in HOA or condo fees, or as a special property tax. Proceeds would go to transit serving the property paying the tax, and renters would use their ecopass to ride a local service for free (or, more accurately, with no fare collection, since the rent, fee, or tax pays for the service).

4. **Study parking requirements**

City qualification for MTC-controlled funds should be conditioned on requiring cities to eliminate parking requirements in zoning. If a developer wants parking, the city may regulate stall and lane requirements. This policy could facilitate use of close-in land for more housing, increase housing density, make housing more affordable, and meet market demand from walking, transit-mobile and car-free households. MTC could study the increased cost of housing caused by parking requirements and the external costs of trips made due to extra parking caused by regulation rather than the market. MTC could study how much the fee would be to offset the pollution and other external costs from excessive parking, known as an indirect source fee. (JPC memo items 3.1 and 3.2)

5. **Study dynamic street parking charges**

MTC should continue to develop model policies for technologies that are easy for consumers to use and which vary the cost of parking on public streets and public parking lots based on demand, by time of day, day of week, and special events. City qualification for MTC-controlled funds should be conditioned on some application of such charges. Convenient street parking in high demand should be charged enough to create vacancies and encourage use of more remote parking. Parking on public streets in an over-parked neighborhood could be charged analogous to a parking structure: a driver would pick up a tag, have a FasTrak transponder read, or insert a credit/debit card on the way in, the same as used in parking structures. If volume justified, an attendant could collect on the way out, or an automated system could be used to collect the cash,

pay by FasTrak, or charge the card. Owners of residences fronting on the street could have an option to buy a parking permit or get some of the proceeds from parking charges. Information systems should inform drivers about parking availability to reduce hunting for a space. Proceeds should be used for pedestrian and transit amenities in the area paying the charge, with local people participating in the process.

6. **Study dynamic congestion pricing**

Congestion is the best "price" we have now for allocating otherwise free freeway space. "Wasted" time and money is, in fact, profitable for people in order to reach work and other destinations whose benefits outweigh those costs. However, as shown on San Diego's I-15, a congestion toll benefits all drivers and society as a whole. MTC should develop policies for regional dynamic congestion pricing, which would change tolls in small increments every 15 minutes based on travel demand measured in real time. The policy would manage all freeways, all lanes—not just HOT or HOV lanes or ramp meters or bridges—in the nine Bay Area counties to assure fluidity at a minimum of about 40 miles per hour. The policy would move the freeway system to optimal fluidity over time, gradually reducing peak hour delays as increasing charges, alternative mode development, and longer-term elasticities reduce demand. MTC should study using FasTrak payment technology to collect a toll based on entering and exiting locations. The travel model should compare congestion using this policy versus using HOV and HOT lanes. (The travel model, while not an economic model, uses pricing elasticities, and would work better for this purpose.) Systemic market-pricing of access to mixed flow lanes probably reduces congestion more than HOV and HOT lanes. Dynamic tolling at ramp meters cannot work alone; main line meters are also needed, requiring a change in federal law. Toll bridges would also convert to dynamic tolling. The system would start in a small area, with low charges, and expand. Back-ups at ramp meters would disappear, but some arterials may become more congested. To provide equity and reduce congestion further, MTC should use the surplus funds to subsidize HOVs, buses, and other services that meet travel needs now being met inefficiently by congestion caused by inefficient Low Occupancy Vehicles. (JPC memo item 2)

7. **Study a fee-concept gas tax**

The public wants road maintenance and climate protection beyond what current taxes support, yet has no way to get them. A fee on the sale of gasoline could be approved by a majority of voters. A ballot initiative would have a specific fee for specific uses. In addition, economic analysis is needed to measure the benefits of the uses, and to make more transparent what current taxes are used for and why they can not pay for the new uses. To sell a fee to the voters, it not only needs to be not too big, but also the best way to meet the need and protected from raids for other purposes. (JPC memo item 1.1)

8. Study a carbon swap

MTC should develop a policy which can be implemented at the county level to increase the gas tax while reducing the sales tax by an equivalent amount. Such a policy should include adjustments at stations close to county borders, with revenues to the county of collection, so as to limit excessive driving outside a county for a lower price. The policy may be used to replace some or all of a special sales tax for transportation, which would reduce how much consumers subsidize drivers. The policy should include an elasticity ratchet, which is a performance-based

increase in the gas tax to maintain required revenue as gas consumption declines and other sales increase, and to support a smoother shift from fossil carbon-based growth to sustainable growth. (JPC memo 1.2)

9. Study a pavement tax

MTC should study a special tax on private non-residential property, such as parking lots at work places and stores, based on square feet of paving for private auto use. The tax should be based on the external costs of paving in contributing to urban heat islands, on how much free parking contributes to uneconomic car travel, on revenues lost from more productive land uses, and on the fact that pavement is not aesthetically pleasing. If the owner of the property prefers not to absorb the cost, the owner should have explicit authority and encouragement to charge users directly for parking to offset the pavement tax. Owners could use the same advanced charging systems (see dynamic street parking charges above) as the city where they are located. Funds could be used for transit shuttles in smart growth corridors linked to urban rail. (JPC memo items 1.5 and 3.3)

10. Study driver externality costs

MTC should develop policy to reduce the costs caused by uninsured, unlicensed, drunk, and reckless drivers, by unregistered and grossly polluting vehicles, and by new taxes. Bad drivers deprived of driving privileges would get education and assistance in the court room to get their car home without driving illegally. Drunk drivers should have breath-test locks on their ignitions. The policies should include, in serious cases of driver irresponsibility, expedited administrative procedures for confiscation of vehicles and quick sale to new owners, with legal appeal only for return of funds from the sale, and only if the sale is shown to be improper. MTC should develop policy to prevent uninsured drivers, e.g., by preventing improper refund of insurance costs when the person is still driving. The policy could include equity assistance so that lower income people deprived of a car will have transit passes or even, if essential, taxi fare for work or health care. If a carbon tax were imposed and created a hardship for a low income, responsible driver who needed an old car for work or health purposes, MTC could trade the old for a low-polluting, high mileage vehicle. The driver, paying more per gallon but for fewer gallons, would not be unfairly benefitted and society would benefit. These policies would improve MTC's commitment to social equity as well as prevent delay incidents, reduce congestion, and support transit. Economic study could determine if the benefits outweigh the costs.

11. **Study parking structures**

MTC should develop a policy requiring that **new** parking structures not be subsidized by MTC. The revenues from a parking structure should cover its full cost, including land cost, planning approval process, contract construction cost, interest on loans, operating costs, charge collection costs, and indirect congestion, accident, and pollution costs. If a parking structure is economic, MTC could condition its construction loan on charging to repay the loan. If projected real economic demand is too low to cover the full economic costs, the structure should not be built. **Existing** structures should collect parking charges depending on market demand. Collection of dollar from vehicles exiting between 3 pm and 7 pm could be a minimum.

12. **Study consumer information**

Market imperfections reduce growth, and lack of consumer knowledge is a major imperfection. The private sector uses price advertising to create knowledge (as well as image advertising to create emotions). Auto information—advertising, radio reports, GPS, maps—seems ahead information on non-car modes. MTC's 511 improves knowledge, but there are additional programs that could help. Taxi cost information can be difficult to get; people who are afraid of a high fare, or who don't know how to get a cab, could be helped. Companies that agree to set fares could have a 511 presence showing taxi stands, common rates, and tipping conventions. Home seekers could be helped by rating of neighborhoods by the quality of their transit and walk distances to common needs. BART seems expensive but driving can cost more; it is hard to find clear information. It might be possible to have a web site where the users input their location and type of car and the map shows destination areas where transit costs less.

Conclusion

MTC understands things in terms of how it can spend money, i.e., projects and programs. To make progress on pricing, we have to make it a program. A **Transportation Economics and Pricing Program** should be added to the RTP. Such a program would enable MTC to develop policies that make sense for the full economy—the money economy, the social equity economy, the environmental economy—in addition to goals of "reliability," "reduce VMT," and "reduce congestion."

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